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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,769	06/24/2003	Katsushiro Ishibayashi	740630-57	7291

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EXAMINER
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CAO, HUEDUNG X

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/601,769

**Applicant(s)**

ISHIBAYASHI ET AL.

**Examiner**

Huedung X Cao

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>07/22/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, and 8-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsukada et al. (USP 5353039).

With respect to claim 1, Tsukada teaches an antenna apparatus for a vehicle, said antenna apparatus being provided on the vehicle in which at least a part of constituent members of the vehicle is made of an electrically non-conductive material, wherein the antenna apparatus has at least one non-earthed type antenna, wherein said non-earthed type antenna is provided with a first element connected to an inner conductor of a coaxial line via a first connection point, and a second element connected to an outer conductor of said coaxial line via a second connection point, and wherein at least both said first and second elements and both said first and second connection points are arranged in a portion which is inside the constituent member made of said electrically non-conductive material and is apart from the earthed conductor on the part

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of the vehicle body which Tsukada teaches in column 2, line 51-column 3, line 4; and column 3, lines 27-68.

Claim 2 adds into claim 1, wherein a leader portion of the coaxial line for said non-earthed type antenna to said first and second connection points is drawn out in a different direction from respective extending directions of said first and second elements (figure 5).

With respect to claim 8, an antenna apparatus for a vehicle, comprising a feeder line and antenna elements connected to said feeder line, and said antenna apparatus being provided on the vehicle in which at least a part of constituent members of the vehicle is made of an electrically non-conductive material, wherein said antenna elements are provided with a first antenna element which extends in a direction moving apart from a vehicle body, and a second antenna element and a third antenna element which are branched from said first antenna element and extend in substantially reverse directions to each other in a direction crossing to the first antenna element which Tsukada teaches in column 3, lines 27-68 and figure 5.

Claim 9 add into claim 8, wherein said antenna elements are provided with a fourth antenna element which folded back in an approximately perpendicular direction from a terminal portion of said third antenna element (column 4, lines 1-36).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukada et al. (USP 5353039).

Claim 10 adds into claim 8, wherein said antenna elements are formed in an approximately T-shaped as a whole by a first antenna element, a second antenna element and a third antenna element, a low frequency band is constituted by said first antenna element and the second antenna element, a high frequency band is constituted by said first antenna element and the third antenna element, and a length of said third antenna element is set on the basis of a value obtained by multiplying a length of said second antenna element by a predetermined coefficient which Tsukada does not explicitly disclose. However, Tsukada teaches the different shapes of antenna (element 46 in figure 4; and element 48 in figure 6) suggest Applicant's antenna as claimed. It would have been obvious to one of ordinary skill in the art at the invention was made to use different shapes of the antenna because it is optional to add an auxiliary antenna elements for the purpose of enhancing the transmission and reception gains and/or improving the directional characteristics.

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Claim 11 adds into claim 10, wherein said predetermined coefficient is changed in correspondence to a magnification of a frequency of said high frequency band with respect to a frequency of said low frequency band (column 2, lines 36-50).

Claim 12 adds into claim 11, wherein said predetermined coefficient becomes smaller in accordance with an increase of said magnification (column 2, lines 36-50).

Claim 13 adds into anyone of claims 1 to 12, wherein said constituent member made of an electrically non-conductive material is an outer panel of an opening and closing body for opening and closing an opening of the vehicle body (see abstract).

Claims 14-18 adds into anyone of claims 1 to 12, wherein said constituent member made of an electrically non-conductive material is an air spoiler; wherein said constituent member made of an electrically non-conductive material is a bumper face; wherein said constituent member made of an electrically non-conductive material is a window portion; wherein said antenna elements are mounted to a window glass of the window portion; said electrically non-conductive material is a synthetic resin material; wherein said antenna elements are arranged on an antenna substrate formed in a thin plate, and is mounted to a vehicle body member via said antenna substrate which Tsukada does not explicitly disclose. However, it would have been obvious to one of ordinary skill on the art to use different kind of material for an electrical non-conductive member in order to have the practical purposes of the antenna.

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5. Claims 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukada et al. (USP 5353039) in view of Nagy et al. (USP 6211831).

With respect to claim 3, comprising at least one earthed type antenna, wherein the outer conductor of the coaxial line for said earthed type antenna is earthed on the vehicle body which Tsukada does not explicitly disclose. However, Nagy teaches such earthed type antenna is earthed on the vehicle body is widely used in the art (column 3, lines 7-17. It would have been obvious to one of ordinary skill on the art to have the outer conductor of the coaxial line for said earthed type antenna is earthed on the vehicle body in order to provide optimum performance of the antenna.

Claim 4 adds into claim 3, wherein said earthed type antenna is set so as to cover a lower frequency band than a receivable frequency band of said non-earthed type antenna (column 3, lines 54-65).

Claim 5 adds into claim 3, wherein the coaxial line for said earthed type antenna is structured such that the inner conductor is covered with the outer conductor at least a part of a range from the earthed portion to a feed portion (column 3, lines 37-53).

Claim 6 adds into claim 3, wherein respective feed portions to said non-earthed type antenna and the earthed type antenna are connected to coaxial lines for the respective antennas by one connector (column 2, lines 56-column 3, line 53).

Claim 7 adds into in claim 3, wherein the coaxial lines for the respective antennas connected to the respective feed portions to said non-earthed type antenna and the earthed type antenna are cramped on the part of the vehicle body at least in a part of the coaxial lines by a holding member (column 2, lines 56-column 3, line 53).


***Inquires***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Cao whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Huedung Cao  
Patent Examiner

  
**WILSON LEE**  
**PRIMARY EXAMINER**